

41075W/25

IONZA AG

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Plate assembly and sealing technique - for sieve or bubble-cap plate columns eg. distillation or exchange columns

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Column, e.g. for distillation, mass or heat exchange, a vertical cylinder with removable separating plates, connected in gas - and liquid - tight manner with the cylinder shell, has a tube or deformable cross section installed along the edge of each plate, and a system is provided for producing and maintaining a greater pressure in the tube than that in the column in such a way that each tube is pressed tightly against the cylinder shell and the edge of the intermediate plate.

ADVANTAGES

The arrangement permits the plates to be easily removed and replaced with a minimum of labour while ensuring that the sealing of the plates against the column wall can be re-established without difficulty.

PREFERRED EMBODIMENT

The vertical column (1) is provided with a series of sieve or bubble-cap plates (2) connected together by supports (7) and welded to a common air pipe (8) running within and parallel to the column axis, but spaced from the column shell (1).

J1-A2, J2-A2.

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A U-shaped ring member (4) open outwardly is fixed to the outer edge (3) of the plate (2) and contains a tubular ring concentric with the column and of greater cross section than the U-shaped ring (4), in such a way that a minor part (6) projects from and a major part lies within the ring (4). The tube is retained in position by a pipe (9) and the flange (11) of a connecting pipe (10), by means of the coupling (13) and lock nut (12). By maintaining a pressure in the air pipe (8) greater than the pressure in the column (1), the outer parts (6) of the flexible tubes (6) are pressed against the column shell (1) to form a gas - and liquid - tight seal. To dismantle the plates, it is only necessary to release the pressure when the whole plate assembly may be lifted out, e.g. for cleaning. (4 pp.).

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